

Interview Summary	Application No.	Applicant(s)	
	09/738,990	EISELE, ANDREAS	
	Examiner	Art Unit	
	Matthew J. Sked	2655	

All participants (applicant, applicant's representative, PTO personnel):

(1) Matthew J. Sked.

(3) Greg Lunt.

(2) Wayne Young.

(4) Maryam Ipakchi.

Date of Interview: 13 July 2005.

Type: a) ☐ Telephonic b) ☐ Video Conference
c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: 1 (proposed attached).

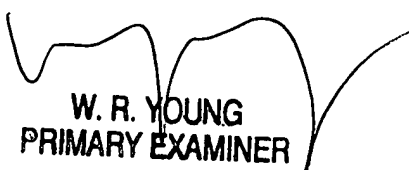
Identification of prior art discussed: Berger, Gale, Melamed.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant's representative presented a proposed claim and argued the added feature from current claim 3. It was agreed that the claim given the argument which will be submitted in due course defined over the prior art of record. A further updated search would of course be performed by the Examiner.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.


W. R. YOUNG
PRIMARY EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Andreas EISELE

Group Art Unit: 2655

Application No.: 09/738,990

Examiner: M. SKED

Filed: December 19, 2000

Docket No.: 108173

For: EXTRACTING SENTENCE TRANSLATIONS FROM TRANSLATED DOCUMENTS

Proposed
AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the June 27, 2005 Office Action, please consider the following:

Amendments to the Claims as reflected in the listing of claims; and

Remarks.

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Method of extracting translations from translated texts, the method comprising the steps of:
 - accessing a first text in a first language;
 - accessing a second text in a second language, the second language being different from the first language, the second text being a translation of the first text;
 - dividing the first text and the second text each into a plurality of textual elements;
 - forming a sequence of pairs of text portions from said plurality of textual elements, each pair comprising a text portion of the first text and a text portion of the second text, each text portion comprising zero or more adjacent textual elements, each textual element of the first and the second text being comprised in a text portion of the sequence;
 - calculating a pair score of each pair in the sequence using the number of occurrences of each of a plurality of features in the text portions of the respective pair and using a plurality of weights, each weight being assigned to one feature of said plurality of features; features, wherein the pair scores are calculated by taking, for each feature occurring in the pair, a minimum number of the numbers of occurrences of the respective feature in the paired text portions, taking the product of the minimum number and the weight assigned to the respective feature, and summing up all the products of all features;
 - calculating an alignment score of the sequence using said pair scores, said alignment score indicating the translation quality of the sequence; and

optimizing said alignment score by systematically searching through the space of alternatives and combining optimal alignments for subsequences into optimal alignments for longer sequences.

2. (Original) The method of claim 1, wherein the dividing step includes a monolingual pre-processing step;

the monolingual pre-processing includes performing normalization of the textual elements, said normalization including lemmatization, case normalization, or truncation;

the monolingual pre-processing further includes counting the frequencies of the normalized textual elements that occur in the texts, and storing the frequencies;

the step of forming said sequence of pairs of text portions includes the steps of retrieving the stored frequencies and pairing text elements having at least similar frequencies; and

the method further comprises the step of reducing at least one weight assigned to a feature occurring in a text element pair if the difference between the frequencies of the paired textual elements exceeds a certain amount.

3. ~~(Currently Amended) The method of claim 1, wherein said pair scores are calculated by taking, for each feature occurring in the pair, the minimum number of the numbers of occurrences of the respective feature in the paired text portions, taking the product of said minimum number and the weight assigned to the respective feature, and summing up all said products of all features; and wherein:~~

~~the alignment score is calculated by summing up all the pair scores; and~~

~~the alignment score is optimized by selecting the maximum alignment score.~~

4. (Original) The method of claim 1, wherein said plurality of features include lexical information.

5. (Original) The method of claim 1, wherein said plurality of features include document structure and formatting information.

6. (Original) The method of claim 1, wherein said plurality of features include any character within the text, the weights of such features being lower than the weights of other features.

7. (Original) The method of claim 1, further comprising the step of generating pairs of textual elements, each pair comprising a textual element of the first text and a textual element of the second text;

wherein the step of generating pairs of textual elements comprises the step of normalizing textual elements; and

wherein the normalizing step includes removing accents, inessential non-alphanumeric characters, or case normalization.

8. (Original) The method of claim 1, further comprising the step of generating pairs of textual elements, each pair comprising a textual element of the first text and a textual element of the second text;

wherein the step of generating pairs of textual elements comprises the step of accessing at least one bilingual resource.

9. (Original) The method of claim 1, wherein the first and second texts are provided in the form of a first and second document, the first and second languages being natural languages, and wherein the method is used for extracting sentence translations.

10. (Original) The method of claim 1, wherein the first and second texts are provided in the form of speech signals and a transcript thereof.

11. (Original) The method of claim 1, wherein the first and second texts are related DNA sequences.

12. (Original) The method of claim 1, wherein the forming, calculating and optimizing steps are performed in a dynamic programming process comprising the steps of:
- accessing a set of nodes, each node being a pair of positions in the first and second texts, each node being annotated with a node score;
 - for each node, generating a set of successor nodes by applying a set of node transitions; and
 - for each successor node, calculating a node score using the node score of the node accessed for generating the successor nodes.
13. (Original) The method of claim 12, wherein said node score is the score of the best alignment that led to the respective node; and wherein:
- each node has assigned a pointer to a predecessor node that took part in the best alignment that led to the respective node; and
 - the process further comprises the step of deleting each node which has no successor node that points to the node as its predecessor node.
14. (Original) The method of claim 12, wherein the process further comprises a pruning step of comparing the score of each successor node with the scores of competing nodes spanning a similar part of the first and second texts, and deleting those successor nodes having scores being considerably worse than the scores of the competing nodes.
15. (Original) The method of claim 14, further comprising the steps of:
- estimating the number of matches that can be achieved in the alignment of the remaining parts of the texts; and
 - using said estimate in comparing the competing nodes.
16. (Original) The method of claim 14, further comprising the steps of
- computing an approximate alignment before performing the forming, calculating and optimizing steps; and

using said approximate alignment in estimating the number of matches.

17. (Original) The method of claim 14, wherein the step of estimating the number of matches includes the step of accessing an index for determining for each feature occurrence where in the respective text the feature occurs.

18. (Original) The method of claim 14, further comprising the step of performing a backward run of the Hunt/Szymanski algorithm and recording the intermediate results sequentially in a stack such that they can be retrieved in reverse order.

19. (Currently Amended) A computer readable storage medium storing instructions for performing a method comprising the steps of:

accessing a first text in a first language;

accessing a second text in a second language, the second language being different from the first language, the second text being a translation of the first text;

dividing the first text and the second text each into a plurality of textual elements;

forming a sequence of pairs of text portions from said plurality of textual elements, each pair comprising a text portion of the first text and a text portion of the second text, each text portion comprising zero or more adjacent textual elements, each textual element of the first and the second text being comprised in a text portion of the sequence;

calculating a pair score of each pair in the sequence using the number of occurrences of each of a plurality of features in the text portions of the respective pair and using a plurality of weights, each weight being assigned to one feature of said plurality of features; features, wherein the pair scores are calculated by taking, for each feature occurring in the pair, a minimum number of the numbers of occurrences of the respective feature in the paired text portions, taking the product of the minimum number and the weight assigned to the respective feature, and summing up all the products of all features;

calculating an alignment score of the sequence using said pair scores, said alignment score indicating the translation quality of the sequence; and

optimizing said alignment score by systematically searching through the space of alternatives and combining optimal alignments for subsequences into optimal alignments for longer sequences.

20. (Currently Amended) A system for extracting translations from translated texts, comprising:

a pre-processor for accessing a first text in a first language, accessing a second text in a second language, the second language being different from the first language, the second text being a translation of the first text, and dividing the first and the second text each into a plurality of textual elements; and

a processor for forming a sequence of pairs of text portions from said pluralities of textual elements, each pair comprising a text portion of the first text and a text portion of the second text, each text portion comprising zero or more adjacent textual elements, each textual element of the first and the second text being comprised in a text portion of the sequence, the processor being further arranged for calculating a pair score of each pair in the sequence using the number of occurrences of each of a plurality of features in the text portions of the respective pair and using a plurality of weights, each weight being assigned to one feature of said plurality of features, wherein the pair scores are calculated by taking, for each feature occurring in the pair, a minimum number of the numbers of occurrences of the respective feature in the paired text portions, taking the product of the minimum number and the weight assigned to the respective feature, and summing up all the products of all features, calculating an alignment score of the sequence using said pair scores, said alignment score indicating the translation quality of the sequence, and optimizing said alignment score by repeating said forming and calculating steps.